

Listing of Claims:

1. (Currently Amended) A method ~~of for~~ evaluating ~~the a~~ processing delay of a speech signal contained in data packets received in a receiver terminal ~~equipped with a telephony module~~ during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, said method ~~including the following~~ comprising the steps of:

~~obtaining from the received data packets a stream of audio packets containing the speech signal;~~

~~within a predetermined decoding time, decoding the stream of audio packets obtained and creating a first reconstituted speech signal;~~

obtaining, from the received data packets, a stream of audio packets and decoding the audio packet stream within a predetermined decoding time to reconstitute a first speech signal;

duplicating at least a portion of the speech signal reconstituted by the telephony module to reconstitute ~~constituting~~ a second speech signal;

determining ~~the delay~~ a time difference between the first speech signal and the second speech signal; and

calculating the processing delay ~~D3~~ of the speech signal contained in the data packets received in the receiver terminal from at least ~~the measured delay the determined time~~ difference between said ~~first speech signal and said second speech signal~~ first and second speech signals and the predetermined decoding time to evaluate the processing delay of the speech signal in the receiver terminal.

2. (Currently Amended) [[A]] The method according to claim 1, wherein the ~~measured~~ delay determined time difference between ~~said first speech signal and said first and second~~ speech signals ~~signal~~ is measured by intercorrelation of the envelope signals of said first and second speech signals.

3. (Currently Amended) [[A]] The method according to claim 1, wherein the step of determining the ~~delay~~ time difference is preceded by a step of detecting vocal activity in the first and second ~~voice~~ speech signals, the ~~subsequent~~ determining and calculating steps being executed if the vocal activity detected in the first and second signals is above a predetermined threshold.

4. (Currently Amended) [[A]] The method according to claim 1, wherein ~~the step of said~~ decoding within a predetermined decoding time ~~uses~~ implements one of a decoding algorithm identical to that ~~used~~ implemented in said telephony module ~~or the~~ and a constant and known decoding time difference ~~whereof~~ relative to the algorithm ~~used~~ implemented in the telephony module, ~~is constant and known~~[[.]]

5. (Currently Amended) [[A]] The method according to claim 1, wherein the processing delay ~~D3~~ is obtained by summing the determined ~~delay~~ time difference between the first and second speech signals and the predetermined decoding time of the first speech signal.

6. (Currently Amended) [[A]] The method according to claim 1, wherein said packet switching network is an IP network and the data packets received in the terminal are IP packets.

7. (Currently Amended) A method ~~[[of]]~~ according to claim 1, further comprising the step of:

evaluating the calculated processing delay of the speech signal in the terminal to evaluate the end-to-end transmission delay of [[a]] the speech signal contained in the data packets received in [[a]] the receiver terminal during [[a]] the voice call to [[a]] the terminal sending said speech signal over [[a]] the packet-switched network.~~[[,]] the method including a step of evaluating the calculated processing delay D3 of the speech signal in the receiver terminal by a method according to claim 1[[.]]~~

8. (Currently Amended) ~~[[A]]~~ The method according to claim 7, further including the following steps comprising:

evaluating the send processing delay D1 of the speech signal sent over the packet-switched network;

measuring the transmission delay D2 of the speech signal in the packet-switched network; and

evaluating the end-to-end transmission delay from said send processing delay D1 of the speech signal sent over the packet-switched network, said transmission delay of the speech signal in the packet-switched network D2 and said receive processing delay D3 of the speech signal received in the receiver terminal.

9. (Currently Amended) [[A]] The method according to claim 8, wherein the ~~send~~ processing delay Δ_1 of the speech signal sent over the packet-switched network is evaluated by consulting a table stored in the receiver terminal containing a predefined maximum value and a predefined minimum value of said processing delay Δ_1 of the speech signal sent over the packet-switched network for each type of speech signal send coder, said predefined maximum values taking into account the accounting for payload of the IP packets received IP packets.

10. (Currently Amended) [[A]] The method according to claim 8, wherein the transmission delay Δ_2 of the speech signal in the packet-switched network is evaluated using a Ping technique.

11. (Currently Amended) [[A]] The method according to claim 8, wherein the transmission delay Δ_2 of the speech signal in the packet-switched network is evaluated from sender report information extracted from the received data packets. ~~received~~[[.]]

12. (Currently Amended) [[A]] The method according to claim 7, wherein the end-to-end transmission delay is evaluated by summing said send processing delay Δ_1 of the speech signal sent over the packet-switched network, said transmission delay of the speech signal in the packet-switched network Δ_2 and said ~~receive~~ processing delay Δ_3 of the speech signal received in the receiver terminal.

13. (Currently Amended) [[A]] The method according to claim 7, further ~~including~~ comprising the steps of:

creating information representing the obtained end-to-end delay values
~~obtained~~; and

sending said created end-to-end delay information over the
packet-switched network to a collection server ~~adapted~~ configured to manage
end-to-end delay information sent by a set plurality of communication terminals
connected to the network.

14. (Currently Amended) A device ~~adapted to be installed~~ for evaluating a processing
delay of a speech signal contained in data packets received in a receiver terminal ~~equipped with a~~
~~telephony module to evaluate the processing delay of a speech signal from data packets received~~
~~in the receiver terminal~~ during a voice call to a terminal sending said data packets over a
packet-switched network, the receiver terminal having a telephony module which generates a
reconstituted speech signal from the received data packets, said device ~~including~~ comprising:

a network filter module ~~adapted~~ configured to obtain, from the received
data packets, a stream of audio packets; ~~containing the speech signal from the data~~
~~packets received~~[[;]]

a control decoder module having a predetermined decoding time for
decoding the stream of audio packets obtained and ~~creating~~ for reconstituting a
first ~~reconstituted~~ speech signal;

an audio filter module ~~adapted~~ configured to duplicate at least a portion of
the speech signal reconstituted by the telephony module, ~~said portion of the~~
~~reconstituted~~ the duplicated portion of the speech signal constituting a second
speech signal;

means for determining ~~the delay~~ a time difference between the first speech signal and the second speech signal; and

means for calculating the processing delay ~~D3~~ of the speech signal contained in data packets received in the receiver terminal from at least the ~~measured delay~~ determined time difference between said ~~first speech signal and said second speech signal~~ first and second speech signals and the predetermined decoding time to evaluate the processing delay of the speech signal in the receiver terminal.

15. (Currently Amended) [[A]] The device according to claim 14, wherein the delay time difference between the first speech signal and the second speech signal is measured by intercorrelation of the envelope signals of first and second speech signals[[;]].

16. (Currently Amended) [[A]] The device according to claim 14, further comprising:

means for evaluating the calculated processing delay of the speech signal contained in data packets received in the terminal to evaluate end-to-end transmission delay of [[a]] the speech signal during the voice call to the terminal sending said data packets over the packet-switched network, said evaluating means being configured for installation ~~adapted to be installed~~ in [[a]] the receiver terminal ~~equipped with a~~ having the telephony module, ~~to evaluate said transmission delay from data packets received in the receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network~~ ~~said device comprising means for implementing a method of evaluating the end-to-end transmission delay as claimed in claim 7~~[[.]]

17. (Currently Amended) Telephone terminal equipment on a packet-switched network[[,]] ~~in particular an IP telephone or a personal computer equipped with telephony software~~, said telephone terminal equipment including a device for evaluating the processing delay of a speech signal as claimed in claim 14.

18. (Currently Amended) Telephone terminal equipment on a packet-switched network[[,]] ~~in particular an IP telephone or a personal computer equipped with telephony software~~, said telephone terminal equipment including a device for evaluating the end-to-end transmission delay of a speech signal as claimed in claim 16.

19. (Currently Amended) A ~~computer program on an~~ computer-readable information medium[[,]] encoded with a computer program executed by a computer that causes including program instructions adapted to execute a method according to claim 1 if said program is loaded into and executed in an electronic data processing system evaluation of a processing delay of a speech signal contained in data packets received in a receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, the computer program comprising:

program code for obtaining, from the received data packets, a stream of audio packets and decoding the audio packet stream within a predetermined decoding time to reconstitute a first speech signal;

program code for duplicating at least a portion of the speech signal reconstituted by the telephony module to reconstitute a second speech signal;

program code for determining a time difference between the first speech signal and the second speech signal; and

program code for calculating the processing delay of the speech signal contained in the data packets received in the receiver terminal from at least the determined time difference between said first and second speech signals and the predetermined decoding time to evaluate the processing delay of the speech signal in the receiver terminal.

20. (Currently Amended) A computer-readable ~~Computer program on an~~ information medium[[,]] including encoded with a computer program instructions adapted to execute a method according to claim 7, if said program is loaded into and executed in an electronic data processing system executed by a computer that causes evaluation of a processing delay of a speech signal contained in data packets received in a receiver terminal during a voice call to a terminal sending said data packets over a packet-switched network, the receiver terminal having a telephony module which generates a reconstituted speech signal from the received data packets, the computer program comprising

program code for obtaining, from the received data packets, a stream of audio packets and decoding the audio packet stream within a predetermined decoding time to reconstitute a first speech signal;

program code for duplicating at least a portion of the speech signal reconstituted by the telephony module to reconstitute a second speech signal;

program code for determining a time difference between the first speech signal and the second speech signal; and

program code for calculating the processing delay of the speech signal

contained in the data packets received in the receiver terminal from at least the determined time difference between said first and second speech signals and the predetermined decoding time to evaluate the processing delay of the speech signal in the receiver terminal; and

program code for evaluating the calculated processing delay of the speech signal in the terminal to evaluate end-to-end transmission delay of the speech signal contained in the data packets received in the receiver terminal during the voice call to the terminal sending said speech signal over the packet-switched network.

21. (Currently Amended) [[A]] The device according to claim 14, further comprising:

means for detecting vocal activity in the first and second speech signals, the ~~delay~~ time difference between the first and second speech signals being determined if the detected vocal activity ~~detected~~ is above a predetermined threshold.

22. (New) The telephone terminal equipment on a packet-switched network as claimed in claim 17, wherein said telephone terminal equipment comprises an IP telephone or a personal computer having telephony software.

23. (New) The telephone terminal equipment on a packet-switched network as claimed in claim 18, wherein said telephone terminal equipment comprises an IP telephone or a personal computer having telephony software.